

CLAIMS

1. An apparatus for synchronizing audio and video in videoconferences, comprising:
5 a plurality of conference sites; and
 a hub for receiving a composite audio and video signal from each site,
determining for each site a currently displayed composite audio and video signal,
and transmitting said currently displayed composite audio and video signal to each of
said sites; said hub receiving an audio only signal from each site; wherein said hub
10 routes all incoming audio only signals to each site.
2. The apparatus of Claim 1, wherein said audio only signal for a site comprises:
 a mixed audio signal composed of audio obtained from several microphones
at said site.
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3. The apparatus of Claim 1, wherein said composite audio and video signals are
encrypted.
4. The apparatus of Claim 1, wherein said composite audio and video signals are
20 compressed.
5. The apparatus of Claim 1, wherein said composite audio and video signals are
both encrypted and compressed.
- 25 6. The apparatus of Claim 5, each site comprising:

a decoder for decrypting and decompressing video within said currently displayed composite audio and video signal.

7. The apparatus of Claim 1, wherein said audio only signal from each site is
5 encrypted and compressed, each site comprising:

a decoder for decrypting and decompressing said compressed and encrypted audio only signal from each site.

8. The apparatus of Claim 1, each site comprising:

10 an audio deselection and mixing device for deselecting an audio only signal corresponding to an audio portion of said currently displayed composite audio and video signal, and for mixing said audio portion of said composite audio and video signal for said currently active site with all other audio only signals at said site;

15 wherein audio associated with displayed video is synchronized with said displayed video.

9. The apparatus of Claim 8, said audio deselection and mixing device further comprising:

20 delay circuitry for aligning said audio only signals with said composite audio and video signal.

10. The apparatus of Claim 1, wherein said hub transmits at least two composite audio and video signals to each site to provide a split screen display at each site.

11. The apparatus of Claim 10, wherein those of said audio only signals which correspond to said at least two composite audio and video signals are deselected at each said site.

5 12. The apparatus of Claim 1, further comprising:

an audio deselection hub for deselecting those audio only signals not directly associated with an ongoing conversation.

13. A method for synchronizing audio and video in encrypted videoconferences,
10 comprising the steps of:

providing a plurality of conference sites; and

providing a hub for receiving a compressed and encrypted, composite audio and video signal from each site, for determining a currently active site, and for transmitting said composite audio and video signal from said currently active site to
15 all other sites; said hub receiving a compressed and encrypted audio only signal from each site; wherein said hub routes all incoming compressed and encrypted audio only signals to each site.

14. The method of Claim 13. wherein audio for a site comprises:

20 a mixed audio signal composed of audio obtained from several microphones at said site.

15. The method of Claim 13, wherein said composite audio and video signals are encrypted.

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16. The method of Claim 13, wherein said composite audio and video signals are compressed.

17. The method of Claim 13, wherein said composite audio and video signals are
5 both encrypted and compressed.

18. The method of Claim 17, performing at each site the steps comprising:
decrypted and decompressing video within said composite audio and video
signal for said currently active site.

10 19. The method of Claim 13, wherein said audio only signal from each site is encrypted and compressed; and further comprising performing at each site the steps comprising:

decrypted and decompressing said compressed and encrypted audio only
15 signal from each site.

20. The method of Claim 13, performing at each site the steps comprising:
deselecting an audio only signal corresponding to an audio portion of said
composite audio and video signal for said currently active site; and

20 mixing said audio portion of said composite audio and video signal for said currently active site with all other audio only signals at said site;

wherein audio associated with displayed video is synchronized with said
displayed video.

25 21. The method of Claim 20, said audio deselection and mixing steps further comprising the step of:

aligning said audio only signals with said composite audio and video signal.

22. The method of Claim 13, wherein said hub transmits at least two composite audio and video signals to each site to provide a split screen display at each site.

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23. The method of Claim 22, wherein those of said audio only signals which correspond to said at least two composite audio and video signals are deselected at each said site.

10 24. The method of Claim 13, further comprising the step of:

deselecting those audio only signals not directly associated with an ongoing conversation.

25. An apparatus for synchronizing audio and video in encrypted videoconferences,

15 comprising:

a hub for receiving a compressed and encrypted, composite audio and video signal from a plurality of sites, for determining a currently active site, and for transmitting said composite audio and video signal from said currently active site to all other sites; said hub receiving a compressed and encrypted audio only signal from each site; wherein said hub routes all incoming compressed and encrypted audio only signals to each site.

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26. An apparatus for synchronizing audio and video in encrypted videoconferences among a plurality of sites, at least two of said sites comprising:

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a decoder for decrypting and decompressing video within a composite audio and video signal for a currently active site;

a decoder for decrypting and decompressing a compressed and encrypted audio only signal from each site; and

an audio deselection and mixing device for deselecting an audio only signal corresponding to an audio portion of said composite audio and video signal for said
5 currently active site, and for mixing said audio portion of said composite audio and video signal for said currently active site with all other audio only signals at said site;

wherein audio associated with displayed video is synchronized with said displayed video.

10 27. A method for synchronizing audio and video in encrypted videoconferences, comprising the steps of:

receiving a compressed and encrypted, composite audio and video signal from a plurality of sites at a hub;

determining a currently active site;

15 transmitting said composite audio and video signal from said currently active site to all other sites with said hub;

receiving a compressed and encrypted audio only signal at said hub from each site; and

20 routing all incoming compressed and encrypted audio only signals to each site from said hub.

28. A method for synchronizing audio and video in encrypted videoconferences among a plurality of sites, comprising at least two of said sites the steps of:

25 decrypting and decompressing video within a composite audio and video signal for a currently active site;

decrypting and decompressing a compressed and encrypted audio only signal from each site; and

deselecting an audio only signal corresponding to an audio portion of said composite audio and video signal for said currently active site; and

5 mixing said audio portion of said composite audio and video signal for said currently active site with all other audio only signals at said site;

wherein audio associated with displayed video is synchronized with said displayed video.